#33

EXPRESS MAILING CERTIFICATE

EXPRESS MAIL No.: EV 168 019 966 US Deposited: August 14, 2002

I hereby certify that this correspondence is being deposited with the United States Postal Service Express mail under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, Washington, D.C. 20231

Ruth Montalvo

In the event that this paper is late filed and a necessary Petition for an Extension of Time is not concurrently filed herewith, please consider this as a Petition for the requisite extension of time, and to the extent not tendered by check attached hereto, authorization to charge the extension fee, or any other fee required in connection with this paper, to Deposit Account No. 50-1529.



GK-MIT-1020/500707.20001

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Andreas Gerhard BAAR et al. Group: 1772

Serial No.: 09/029,408 Examiner: S. NOLAN

Filing Date: October 1, 1998 Customer No. 26418

For: PROCESS FOR PRODUCING MOLDINGS WITH A BARRIER LAYER MADE OF BIODEGRADABLE MATERIAL, AND MOLDINGS PRODUCED ACCORDING TO THIS PROCESS

To Exr 8/22/02 NS. OK to enter Examiner 8-24-02

Box AF
Commissioner for Patents
Washington, D. C. 20231



**RESPONSE**

Sir:

This is in response to the Office Action mailed February 14, 2002.

Reconsideration and withdrawal of the rejection of Claims 60-64 and 71 as unpatentable over Tiefenbacher et al '320 in view of Haas, et al '049 are requested. As set forth in Section 11 on Page 5 of the prior Office Action mailed December 8, 2000, and which comments are incorporated in the rejection in the outstanding Office Action, the Examiner asserts Tiefenbacher et al shows the preparation of rottable shaped bodies by baking a starch mix in a mold and subsequently conditioning them. The Examiner asserts that the bodies contain fibers, talcum and kaoline and may have plastic layers. The Examiner recognizes that the reference does not teach the coating of preformed substrates. The Examiner relies on Haas et al as teaching the use of cellulose acetate coatings on shaped articles as water repellent coatings and that the coatings are applied to preformed substrates.

However, these assertions mischaracterize these references and in particular mischaracterize the process disclosed in Tiefenbacher et al, as it relates to the presently claimed invention.

As presently recited in Claim 60, the present invention is a method for producing a substantially completely biodegradable molded body for packaging by first preparing a viscous mixture of biodegradable fiber material, water and starch, introducing this prepared mixture into a mold having the desired shape, heating the mixture in the mold to bake it into a cohesive mass having the desired shape and thereafter applying a biodegradable hydrophobic softener-free liquid impenetrable boundary layer to the thus obtained shaped cohesive mass. In other words, after the mixture has been baked into the shape, the boundary layer is applied directly to this baked mass as obtained.

This is not the process disclosed in Tiefenbacher et al. Not only does Tiefenbacher et al. not disclose the application of the presently recited boundary layer to the mass obtained directly from the baking step, it requires an additional intermediate step. Namely, after the baking step, the product must be conditioned to adjust its water content to a specific range, i.e., from about 6 to 22 percent (column 15, lines 36-50). This conditioning step is effected using air conditioning chambers or in tunnel apparatuses and the like (column 15, lines 51-59). It is clear from the disclosure as well as the claims that this conditioning step which succeeds the baking operation is required in order to provide the desired water content of the baked body.

The Examiner refers to column 21, lines 13-17 of the reference as disclosing that coatings of natural products having rubber-elastic properties may be used to cover the Tiefenbacher shaped bodies on one or both sides. However, it is clear from a reading of this portion of the reference that the coatings are applied subsequent to the conditioning step. There is absolutely no disclosure that the conditioning step can be dispensed with in order to achieve the product of the Tiefenbacher et al. reference or that any coating can be applied to the body prior to the conditioning step.

In addition, the disclosure specifically states the covering may be on one or two sides and may be flexible and consists of plastic such as polyethylene, or plastics or natural products having rubber-elastic properties. This does not contemplate biodegradable coverings. The fact that the covering may be a natural product does not mean that it is biodegradable. Moreover, the covering is for the purpose of improving the

flexibility of the product at bendable portions thereof. In particular, at column 1, lines 1-19, the portent of the disclosure is that given certain water contents, the covering may be on one or two sides and must be flexible in order to allow the product to be bent through 90 degrees without breaking. This is the purpose of the coating of the covering and there is certainly no disclosure of the application of a boundary layer as recited in the present claims. In addition, one simply cannot read into this disclosure that the covering is biodegradable, particularly in light of the fact that clearly non-biodegradable coatings are listed. The Examiner asserts that the title of Tiefenbacher's patent strongly suggests that he wanted his bodies to be rottable inferring that the use of non-biodegradable materials therein should be kept to a minimum. Firstly, the Examiner has not cited any evidence to support his taking official notice that the term "rottable" means things that are biodegradable. In fact, the word "rottable" cannot be found in any of the major dictionaries.

Moreover, the Examiner's assertion that the title "strongly suggests that he wanted his bodies to be rottable" does not mean either that they were necessary biodegradable or much less that they were to be completely biodegradable. Indeed, the thrust of the disclosure clearly shows that non-biodegradable products were contemplated because of the numerous possibilities of including non-biodegradable materials in the product. This includes not only the covering material, but also, the fact that the disclosure contemplates the making of the shaped bodies from prefabricated and preshaped materials which are generally sheetlike and possibly threadlike (column 15, line 67, column 16, line 2). These materials are bonded during the baking process to the structure of the body being formed. The reference then goes on at line 6 of column 16 to specify the requirements of the process and the materials to be bonded. Beginning at line 28, examples of suitable materials are described. These can include not only paper, but also plastic, polyethylene terephthalate, and other temperature-stable materials as well as threadlike materials, glass, plastic, metal, natural fibers and the like. Clearly, this disclosure contemplates the body being not primarily rottable and indeed the possibility that it is not rottable at all or at least not completely rottable.

Consequently, this disclosure flies in the face of the Examiner's assertion that the patent strongly suggest that he wanted the bodies to be rottable. Why would the inventor include clearly non-rottable and non-biodegradable materials in the product if this was the intent? Most certainly, this disclosure cannot possibly suggest a product which is "completely" biodegradable as required by the present claims and which it is the purpose

of the presently claimed method to produce.

In addition, the present claims do not allow for the inclusion of an intermediate conditioning step between the baking step (c) and the application of the boundary layer step (d). This is because the claims recite that the biodegradable boundary layer is applied to the "thus obtained shaped cohesive mass" from the baking step. No conditioning step can be interposed because the boundary layer must be applied to the shaped cohesive mass obtained directly from the baking step. As note, Tiefenbacher et al. contains no disclosure whatsoever that the crucial conditioning step to adjust the water content of the baked body should or could be dispensed with and accordingly the reference teaches away from the present method as claimed.

The Haas reference contains no information which would lead one reading the reference and having Tiefenbacher in front of them to do away with the specifically required conditioning step. Rather, Haas discloses only the use of coatings on baked products and indeed, specifically refers to Tiefenbacher et al. '320 patent as being the type of shaped element to which the coatings disclosed therein are to be applied. In fact, Haas et al. describes in detail the Tiefenbacher et al. process at columns 1 and 2 including the conditioning step which is required to control the moisture content to a value of 6 to 22%. Consequently, Haas et al. in essence discloses only that the coatings shown therein would be applied to the conditioned product of the Tiefenbacher et al. method. Certainly, there is nothing in Haas et al. which suggests that one could apply the coating to the baked Tiefenbacher et al. product prior to the conditioning step.

Accordingly, if one were to combine these two references in the manner attempted by the Examiner, they must inherently arrive at a process which includes a baking step followed by a conditioning step to reduce the water content of the baked body within a specific range. If one wanted to apply the coating of Haas thereafter, one would only do it to the conditioned body. Such a procedure is not included within the present claims and accordingly the combined references do not suggest the method recited in the present claims. This rejection is untenable and should be withdrawn.

Reconsideration and withdrawal of the rejection of the claims as being unpatentable over the combination of Tiefenbacher et al. taken with the Kharas reference as discussed in Section 2, Paper No. 14 also requested. The Examiner relies on Kharas as disclosing the use of polylactide coatings for fibrous webs to yield biodegradable

products. As has been previously pointed out, the fibrous web of Kharas is not a material which is molded or baked as in the present case. The web rather is simply formed in the paper making process. In addition, synthetic fibers for the web include polyofins such as polyethylene and polypropylene. Such a web would not be biodegradable. Thus, Kharas contemplates materials which are certainly not "completely" biodegradable.

Moreover, Kharas et al. says absolutely nothing which would lead one with skill in this art to disregard the required conditioning step of the Tiefenbacher et al. process as it is disclosed. Consequently, here again, if one were to combine these references in the manner attempted by the Examiner, they must inherently arrive at a method which includes a baking step followed by a conditioning step to adjust the water content of the baked article, and only then, optionally applying a coating to the thus conditioned article. This is not within the scope of the present claims and this rejection is also unwarranted and should be withdrawn.

In view of the foregoing, it is clear that the present claims are patentable over this art of record and the rejections thereon should be withdrawn.

Respectfully submitted,

August 14, 2002
JEG:pap:dej
(212) 521 5403

By: _____
Jules E. Goldberg - Reg. No. 24,406
Reed Smith LLP
599 Lexington Avenue – 29th Floor
New York, NY 10022